

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 7, 2009 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 34-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Jain et al 6,987,751 (hereinafter Jain)** in view of **Uchida et al 7,072,359 (hereinafter Uchida)**.

Regarding **claim 34**, Jain discloses a core network, comprising: a hybrid mobile switching center (HMSC) (hybrid MSC 24, see fig. 1, col. 4, lines 16-18) coupled between a first radio access network (RAN) configured in accordance with a first wireless technology (CDMA RAN 12, see fig. 1, col. 4, lines 16-22) and a second RAN configured in a accordance with a second wireless technology incompatible with the first-wireless technology (GSM core 14, see fig. 1, col. 4, lines 16-22).

Jain does not specifically disclose wherein, the HMSC includes a message converter configured for converting information compatible with the first or second wireless technology into information compatible with the other wireless technology and wherein converting said information includes receiving a first message based on the first wireless technology, inserting the first message into a second message compatible the second wireless technology, receiving a third message based on the second wireless technology, extracting a fourth message compatible with the first wireless technology from the third message, and converting the third message into a

fifth message compatible with the first wireless technology if the third message does not contain the fourth message.

In the same field of endeavor, Uchida discloses a communication network 100 that includes a CDMA network 110 and a GSM network 120 (see fig. 1, col. 3, lines 31-34), comprising a message converter accessible to the call controller and the base station portion (11F, see fig. 1, col. 6, lines 43-62), wherein the message converter is adapted to convert information compatible with the first or second protocol into information compatible with the other protocol (conversion of GSM SMS to a CDMA message, see fig. 3, col. 7, lines 42-59); and said message converter including a plurality of instructions, said instructions including: an instruction for receiving a first message based on the first protocol from the network (see fig. 4, col. 8, lines 45-65); an instruction for inserting the first message in its entirety into a single variable length field of a second message (inserting the data field of the GSM SMS message into the user data field of the CDMA SMS message, the user data field having a variable length, see table 3, col. 7, lines 58-62) compatible the second protocol (conversion of GSM SMS to a CDMA message, and vice versa, see fig. 3, col. 7, lines 42-59); an instruction for receiving a third message based on the second protocol from the interface (see col. 7, lines 60-67); and an instruction for extracting a fourth message compatible with the first protocol from a single variable length field (inserting the data field of the CDMA SMS message into the user data field of the GSM SMS message, the user data field having a variable length, see table 1, col. 4, lines 51-65, col. 7, lines 60-67 and col. 8, lines 8-9) of the third message (conversion of CDMA SMS to a GSM message, see col. 8, lines 1-

9), and converting the third message into a fifth message compatible with the first wireless technology if the third message does not contain the first message (inherent since the a CDMA mobile station can also send a CDMA SMS to the GSM network, and the IIF performs CDMA-to-GSM message conversion of the CDMA message into a GSM message by encapsulating the CDMA SMS in a GSM SMS as described for the GSM-to-CDMA message conversion, see abstract, col. 7, lines 42-59, col. 10, lines 1-13).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Uchida into the hybrid MSC of Jain, having at the hybrid MSC the functionality of encapsulating GSM message/information in a CDMA message (and vice versa), for the benefit of transmitting GSM SMS messages to mobile users in a CDMA network.

Regarding **claim 39**, Jain discloses a hybrid mobile switching center (hybrid MSC 24, see fig. 1, col. 4, lines 16-18), comprising: an interface arrangement configured for enabling a plurality of radio access networks (RANs) to be coupled thereto, wherein a first one of said RANs is configured in accordance with a first wireless technology (CDMA RAN 12, see fig. 1, col. 4, lines 16-22) and a second one of said PANs is configured in a accordance with a second wireless technology incompatible with tile first Wireless technology (GSM core 14, see fig. 1, col. 4, lines 16-22); and a call controller (hybrid MSC 24 invokes a GSM protocol to connect the MS 18, indicating presence of a call controller since the function of the call controller is to support call establishment and call clearing procedures, see figs. 1 and 2, col. 4, lines 35-56).

Jain does not specifically disclose a message converter configured for converting information compatible with the first or second wireless technology into information compatible with the other wireless technology; and a mobility manager coupled between the message converter and the call controller.

Uchida however discloses a message converter (614, see fig. 6, col. 10, lines 1-13) configured for converting information compatible with the first or second wireless technology into information compatible with the other wireless technology (conversion of GSM SMS to a CDMA message and vice versa, see fig. 3, col. 7, lines 42-59); and a mobility manager coupled between the message converter and a call controller (MSC between the message converter and mobile station comprising a call controller, see fig. 6, col. 10, lines 1-29).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Uchida into the hybrid MSC of Jain, having at the hybrid MSC the functionality of encapsulating GSM message/information in a CDMA message (and vice versa), for the benefit of transmitting GSM SMS messages to mobile users in a CDMA network.

Regarding **claim 48**, Jain discloses a hybrid mobile switching center (hybrid MSC 24, see fig. 1, col. 4, lines 16-18), comprising: an interface arrangement configured for enabling a plurality of radio access networks (RANs) to be coupled thereto, wherein a first one of said RANs is configured in accordance with a first wireless technology (CDMA RAN 12, see fig. 1, col. 4, lines 16-22) and a second one of said RANs is configured in a accordance with a second wireless technology incompatible with the first

wireless technology (GSM core 14, see fig. 1, col. 4, lines 16-22); and a call controller (hybrid MSC 24 invokes a GSM protocol to connect the MS 18, indicating presence of a call controller since the function of the call controller is to support call establishment and call clearing procedures, see figs. 1 and 2, col. 4, lines 35-56).

Jain does not specifically disclose a message converter configured for converting information compatible with the first or second wireless technology into information compatible with the other wireless technology, wherein the message converter is configured in accordance with the first wireless technology and the message converter is accessible to the call controller and a portion of a base station of one of said RANs; and a mobility manager coupled between the message converter and the Call controller, wherein the mobility manager is configured for accessing mobile user information from a local database; wherein the message converter is configured for linking, via the second one of said RAN's, a mobile device configured in accordance with the second wireless technology with at least one of the mobility manager and the call controller.

Uchida however discloses a message converter (600 comprising 614, see fig. 6, col. 10, lines 1-13) configured for converting information compatible with the first or second wireless technology into information compatible with the other wireless technology (conversion of GSM SMS to a CDMA message and vice versa, see fig. 3, col. 7, lines 42-59), wherein the message converter is configured in accordance with the first wireless technology (see fig. 6, col. 10, lines 1-13) and the message converter is accessible to a call controller (the message/service center is implemented in the GSM

service center or IS 41 service center, clearly indicating presence of call control in the service center 600 that comprises the message converter, see col. 9, lines 62-67, col. 10, lines 1-13) and a portion of a base station of one of said RANs (service center 600 communicating with serving node 130, see fig. 6, col. 10, lines 62-67); and a mobility manager coupled between the message converter and the Call controller, wherein the mobility manager is configured for accessing mobile user information from a local database (the message/service center is implemented in the GSM service center, clearly indicating presence of GSM mobility management functionality for tracking a mobile terminal by accessing identification information in the VLR, see col. 9, lines 62-67, col. 10, lines 1-13); wherein the message converter is configured for linking, via the second one of said RAN's, a mobile device configured in accordance with the second wireless technology with at least one of the mobility manager and the call controller (conversion of GSM SMS to a CDMA message and transmission of the encapsulated message to the serving node and vice versa, see fig. 3, col. 7, lines 42-59, col. 10, lines 62-67, col. 11, lines 1-13).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Uchida into the hybrid MSC of Jain, having at the hybrid MSC the functionality of encapsulating GSM message/information in a CDMA message (and vice versa), for the benefit of transmitting GSM SMS messages to mobile users in a CDMA network.

Regarding **claims 35, 41 and 50** as applied to claims 34, 40 and 49, Jain as modified by Uchida discloses the claimed limitation. Uchida further discloses wherein:

messages compatible with the first wireless technology are configured in accordance with a fast communications protocol; and messages compatible with the second wireless technology are configured in accordance with a second communications protocol different than the first communications protocol (conversion of GSM SMS to a CDMA message, and vice versa, see fig. 3, col. 7, lines 42-59, col. 10, lines 1-13).

Regarding **claims 36, 43 and 51** as applied to claims 35, 42 and 50, Jain as modified by Uchida discloses the claimed limitation. Uchida further discloses wherein a native communications protocol of the core network is the first communications protocol (see col. 7, lines 42-59).

Regarding **claims 37, 42 and 52** as applied to claims 36, 41 and 51, Jain as modified by Uchida discloses the claimed limitation. Uchida further discloses wherein: the first communications protocol is a Global System for Mobile communications (GSM) protocol; the second communications protocol is a code division multiple access (CDMA) protocol (see col. 7, lines 42-59).

Regarding **claims 38, 44 and 53** as applied to claims 36, 41 and 51, Jain as modified by Uchida discloses the claimed limitation. Uchida further discloses wherein: the second protocol is a Global System for Mobile communications (GSM) protocol; and the first protocol is a code division multiple access (CDMA) protocol (conversion of GSM SMS to a CDMA message, and vice versa, see fig. 3, col. 7, lines 42-59, col. 10, lines 1-13).

Regarding **claims 40 and 49** as applied to claims 39 and 48, Jain as modified by Uchida discloses the claimed limitation. Uchida further discloses wherein the message

converter is adapted to convert information compatible with the first or second protocol into information compatible with the other protocol (conversion of GSM SMS to a CDMA message, see fig. 3, col. 7, lines 42-59); and said message converter including a plurality of instructions, said instructions including: an instruction for receiving a first message based on the first protocol from the network (see fig. 4, col. 8, lines 45-65); an instruction for inserting the first message in its entirety into a single variable length field of a second message (inserting the data field of the GSM SMS message into the user data field of the CDMA SMS message, the user data field having a variable length, see table 3, col. 7, lines 58-62) compatible the second protocol (conversion of GSM SMS to a CDMA message, and vice versa, see fig. 3, col. 7, lines 42-59); an instruction for receiving a third message based on the second protocol from the interface (see col. 7, lines 60-67); and an instruction for extracting a fourth message compatible with the first protocol from a single variable length field (inserting the data field of the CDMA SMS message into the user data field of the GSM SMS message, the user data field having a variable length, see table 1, col. 4, lines 51-65, col. 7, lines 60-67 and col. 8, lines 8-9) of the third message (conversion of CDMA SMS to a GSM message, see col. 8, lines 1-9), and converting the third message into a fifth message compatible with the first wireless technology if the third message does not contain the first message (inherent since the a CDMA mobile station can also send a CDMA SMS to the GSM network, and the IIF performs CDMA-to-GSM message conversion of the CDMA message into a GSM message by encapsulating the CDMA SMS in a GSM SMS as described for the

GSM-to-CDMA message conversion, see abstract, col. 7, lines 42-59, col. 10, lines 1-13).

Regarding **claim 45** as applied to claim 44, Jain as modified by Uchida discloses the claimed limitation. Uchida further discloses wherein a native communications protocol of the network is the CDMA protocol (conversion of GSM SMS to a CDMA message, and vice versa, see fig. 3, col. 7, lines 42-59, col. 10, lines 1-13).

Regarding **claim 46** as applied to claim 39 Jain as modified by Uchida discloses the claimed limitation. Uchida further discloses wherein: the message converter is accessible to the call controller (the message/service center is implemented in the GSM service center or IS 41 service center, clearly indicating presence of call control in the service center 600 that comprises the message converter, see col. 9, lines 62-67, col. 10, lines 1-13) and a portion of a base station, of one of said RANs (service center 600 communicating with serving node 130, see fig. 6, col. 10, lines 62-67); the message converter is configured in accordance with the first wireless; and the message converter is configured for linking, via the second one of said RAN's, a mobile device configured in accordance with the second wireless technology with at least one of the mobility manager and the call controller (conversion of GSM SMS to a CDMA message and transmission of the encapsulated message to the serving node and vice versa, see fig. 3, col. 7, lines 42-59, col. 10, lines 62-67, col. 11, lines 1-13).

Regarding **claim 47** as applied to claim 46 Jain as modified by Uchida discloses the claimed limitation. Uchida further discloses wherein: wherein the mobility manager is configured for accessing mobile user information from a local database (the

message/service center is implemented in the GSM service center, clearly indicating presence of GSM mobility management functionality for tracking a mobile terminal by accessing identification information in the VLR, see col. 9, lines 62-67, col. 10, lines 1-13).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLUMIDE T. AJIBADE AKONAI whose telephone number is (571)272-6496. The examiner can normally be reached on M-F, 8.30p-5p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on 571-272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

OA

/Charles N. Appiah/

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